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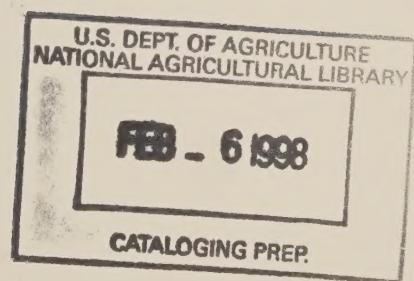
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PROGRESS REPORT

ADAPTING AND EXTENDING AMERICAN AGRICULTURAL EXPERIENCE AND CAPABILITIES TO IMPROVE FOOD PRODUCTION AND DISTRIBUTION IN DEVELOPING COUNTRIES



Foreign Economic Development Service, U.S. Department of Agriculture
cooperating with U.S. Agency for International Development

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"What we have learned in America and the knowledge that we are able to share with other people may make a difference these next 10, 15, 25 years--a difference as to whether millions of people all over the world will grow up without enough to eat at all, or whether they may have a better chance."

President Richard M. Nixon
speaking at the National
Agricultural Research Center,
Beltsville, Maryland
December 1970

Introduction

President Richard M. Nixon, concerned with the world food/population imbalance, in 1969 requested Clifford M. Hardin, Secretary of Agriculture, and John A. Hannah, Administrator of the Agency for International Development, to:

"investigate ways of adapting and extending our agricultural experience and capabilities to improve food production and distribution in developing countries."

Their report, "Improving Food Production and Distribution--Recommendations for American Assistance to Developing Countries," was submitted to The President on February 19, 1970. This pamphlet now summarizes the progress that USDA and AID have made in implementing the recommendations outlined in that report.

Copies of the earlier report are available from the Foreign Economic Development Service, Reports and Technical Inquiries Staff, U.S. Department of Agriculture, Washington, D. C. 20250, and from the Office of Agriculture, Bureau for Technical Assistance, Agency for International Development, Washington, D. C. 20523.

Summary

This is a summary of the U.S. Department of Agriculture-Agency for International Development progress in implementing the recommendations made to the President of the United States in a February 1970 report on improving food production and distribution in the low-income nations.

These recommendations focused on the need for more U.S. support for (1) international agricultural research, (2) soil and water programs, (3) agricultural training for foreign agriculturists, and (4) the upgrading of institutional competence of central governments, especially ministries of agriculture.

Efforts in each of the recommendation areas have centered on strengthening the ability of developing countries to plan and direct their own development programs. The full report demonstrates that institutions serving U.S. agriculture can make a special contribution in meeting the priority needs of these countries.

Following is a brief account of progress in each area:

(1) International Agricultural Research Network

*AID and USDA have given firm support to the World Bank in its formation of a Consultative Group to organize and coordinate long-term financial support for international research institutes for agricultural research, and to consider additional measures for strengthening research networks. These actions were stimulated by the research results of established centers responsible for the work of the "Green Revolution," which is beginning to transform wheat and rice production in an important part of the developing world.

*Higher priority is being given to the support of international research in the allocation of U.S. assistance resources and to the mobilization of U.S. agricultural competence. Strong emphasis is being directed toward linking together the research capabilities of the international institutes, developing country research organizations, and U.S. research competency. This mutually supporting system promises rapid progress for overcoming existing knowledge gaps in adapting present production techniques to developing

country agricultural problems and discovering improved methods for achieving more productive use of vast areas, principally in the tropical regions which are presently nonproductive or producing at subsistence levels.

(2) Soil and Water Programs

Although progress in laying the foundation for more effective soil and water use has been modest, there have been several significant advances.

*More international support for action on such programs has been generated to complement U.S. research and assistance. AID and USDA support of the "Green Revolution" which requires added, direct emphasis on soil and water has helped generate this support. For instance, the World Bank now supports water use research in the Mekong Basin on projects supported by the United States.

*Cambodia, Laos, Thailand, and Vietnam, countries which comprise the Mekong Basin, are greatly expanding their investments in irrigation systems. Significant examples include the completed Nam Pong Dam in Thailand, and feasibility studies completed or underway for projects in the four Mekong countries.

*In other parts of the world, examples include Brazil's increased efforts in planning the huge Sao Francisco River Basin development and India's expanded soil and water management programs. Turkey, likewise, has had major increases in both financial support and government interest on its soil and water management problems.

*Several research grants to U.S. universities have been made to increase U.S. competence and knowledge to deal with problems of tropical soils and water management. Already several of these universities are cooperating with indigenous institutions in strengthening their research competence and getting field and adaptive research underway. These include Utah State University, working with institutions in Peru, Colombia, and Brazil; Colorado State University, working with Western Punjab Agricultural University (WPAU); Ayub Research Experiment Station in West Pakistan; and North Carolina State University and Cornell University, working in tropical soil management in Colombia.

(3) Agricultural Training

*The upgrading of the personal talent of agriculturists in the developing countries has a direct impact on U.S. foreign assistance goals. Technicians, scientists, managers, and teachers trained in these programs are providing the necessary skills and competency for educational institutions, ministries, private businesses, research institutions, and other activities. To date, more than 150,000 men and women have participated in U.S. sponsored training, 20 percent of them in agriculture. Most of the training has been in the United States.

*In addition, on-the-job training programs are conducted in-country. These strengthen U.S. academic training by providing immediate practical guidance to technicians, managers, and scientists in a number of activities, such as government administration, extension, education, and research. A number of countries are making use of such training, such as Thailand, under a joint AID-USDA program.

*U.S. training programs in the graduate field are being made more relevant to agricultural conditions in the countries of the trainees by permitting them to return home to do research for their theses.

(4) Upgrading Institutions

The earlier report noted that..."If agriculture is to make progress, the ministries of agriculture must be substantially strengthened." Competence must be improved in agricultural sector analysis evaluation, planning, and public administration to meet their developmental goals and alleviate unemployment and other social and economic problems in rural areas. This complies with the evolving U.S. aid policies placing greater responsibility on the developing nations for their own development.

*Training seminars for top-level government administrators have been conducted. These include two in the United States for the Turkish Government; others were in Jordan, India, Pakistan, Thailand, Indonesia, and Korea.

*Grants have been made to four U.S. institutions for increasing U.S. professional competence in agricultural economics applicable to the needs of the low-income nations. Already, some of this competence is being put to use to help developing countries; for example, some West African countries on employment generation in agriculture.

*AID and USDA have identified priority needs for competency in the low-income nations which can be served by U.S. know-how. These include public administration, sector analysis, planning, research administration, biological research, and other scientific fields.

*AID and USDA have studied ways of meeting these needs. For example, arrangements could be developed with ministries in selected developing countries to utilize the USDA cooperatively with a few selected U.S. state departments of agriculture to serve as an intermediary organization to meet the needs of U.S. agricultural assistance programs in the future.

Progress Report

on implementing the recommendations made in a Joint Report to The President by Clifford M. Hardin, Secretary of Agriculture, and John A. Hannah, Administrator, Agency for International Development.

The February 19, 1970, report to The President of the United States on "adapting and extending American agricultural experience and capabilities to improve food production and distribution in developing countries" summarized the world agricultural situation. It focused on four recommendations concerning U.S. foreign assistance programs. These recommendations were:

- Substantial increase in AID support of an international agricultural research network, in both developed and developing countries, directed at problems of agricultural growth in the latter;
- Expanded efforts to obtain, impart, and apply knowledge of soil and water, in order to increase food production and protect the environment;
- Increased and more relevant agricultural training in both the United States and the developing countries; and
- Emphasis on development of institutional competence of central governments, especially ministries of agriculture, to plan and manage agricultural programs and to provide supporting services to the agricultural sector.

Significant progress has been made in implementing some of these recommendations. Others will require continued special effort. AID and USDA propose to continue to search for new and improved ways to utilize U.S. agricultural experience and knowledge to the benefit of the developing countries. AID and USDA staffs have

worked closely to implement these recommendations. There will be continued close cooperation as programs are adjusted to align with operations of the U.S. foreign assistance program proposed by the President.

RESEARCH

The need continues in developing countries for a constant flow of new agricultural technology. A network of research effectively linking the scientific competence of the developed countries with research institutions of the less developed is vital. Substantial effort has recently been directed toward strengthening existing elements of this network and building new ones.

A major breakthrough has been made in terms of cooperative international efforts. A series of meetings of numerous bilateral assistance agencies, international agencies, and private foundations culminated in a meeting jointly sponsored by the Food and Agriculture Organization of the United Nations (FAO) and the International Bank for Reconstruction and Development (IBRD). The decision to form a Consultative Group for the long range support of international research in agriculture was made at this meeting. This group will coordinate contributions to the international research network and will generate continued financial support of bilateral and international assistance agencies. The IBRD has agreed to provide a Secretariat for the Consultative Group and the FAO will provide the Secretariat for a Technical Advisory Committee. The IBRD and FAO have nominated members of the Technical Advisory Committee, which held its first meeting in June 1971.

AID has indicated U.S. agreement in principle to expand its contributions to support ongoing and new international research centers up to 25 percent of additional capital and future operating expenses, or a maximum of \$7 million per year. This support would represent an expansion from approximately \$3 million contributed by AID in 1970 to the four international research centers already established.

Agricultural research is scheduled to receive priority in the U.S. foreign assistance programs in the 1970's. Measures for assisting in development of research competence in LDC's are contained in in-country technical assistance programs and incorporated in international programs of research sponsored by AID, USDA, and other donors. Linkages are being created between international agencies, U.S. universities, USDA, and LDC institutions for strengthening national research centers and enhancing their research programs. A principal component of the linkage would involve arrangements between (1) agricultural universities and national research centers of the developing countries, and (2) the USDA's National Agricultural Research Center at Beltsville and U.S. state experiment stations. Efforts in these directions are being intensified.

Some advanced countries have developed research institutions and cadres of capable young scientists but still need guidance and leadership by experienced scientists. However, the progress varies widely among countries. Others lack adequate scientific personnel to form the basic institutional competence for undertaking research. Therefore, technical assistance must be flexible to meet these varying needs.

Congress acted on AID's recommendations and authorized in the Foreign Assistance Act of 1968 grants to U.S. universities to develop U.S. competence for research and technical assistance in those sciences needed by AID and lacking in the United States. Funds were authorized by Congress for this purpose in 1968 and subsequent fiscal years, including the current FY 1972. Acting on this authorization, AID has made 18 such grants to improve U.S. university research competencies in the scientific disciplines of great importance to the developing countries.

The possibilities of appropriations under Section 406 of P.L. 480 which authorizes research relevant to tropical and subtropical agriculture are being investigated by AID and USDA. These resources could add significantly to U.S. assistance programs and could, at the same time, contribute to U.S. agriculture. For example, the possibilities of research centers in Hawaii and Puerto Rico are being studied. Also being examined is a cooperative research program whereby outstanding scientists in U.S. universities and USDA would receive grants to carry out research on special problems in cooperation with scientists in the developing countries.

Such a program would complement AID's efforts and also the foreign currency program that the USDA has carried out since 1958. Under this program, grants have been made to foreign institutions in both developed and developing countries for agricultural research of mutual value. In both FY 1970 and 1971, \$5.0 million was appropriated for the program which permitted the use of local currencies. As of June 30, 1971, 427 projects were underway in the developing countries. The program is coordinated with programs of international agencies, AID, and foundations. A special effort is being made to use the program to strengthen research in the fields of cereal production, of collection and preservation of crop varieties, of animal production, and of human nutrition in developing countries.

Marketing problems continue to plague efforts to improve food consumption in many developing countries. USDA, with AID funding, is identifying those marketing problems requiring research and technical assistance. The resulting identification of these needs will be of particular help in developing a more broadly based program designed to stimulate distribution improvements. It is recognized that improved marketing systems are a key to both sustained use of high-yield technologies and increased food consumption in the developing countries.

AID has supported seminars and projects designed to stimulate scientific dialogue among scientists of developing and developed countries. For example, AID's 1970 annual Spring Review focused on land reform. And there have been several seminars held in the Near East/South Asia region focusing on irrigation problems and practices of irrigation. Following recommendations made in the report to the President last year, AID initiated a contract with the Agricultural Development Council to sponsor a series of seminars focusing on research and training in agricultural economics. Increased interactions of U.S. scientists and colleagues of the developing countries on high priority research and teaching issues, a basic goal, are well underway. A series of seminars and workshops have been held on: rural employment generation; farm mechanization; diversification and trade; food marketing; sector planning; delivery systems of production inputs for small farmers; agricultural policy; and on an international research network in agricultural economics.

In addition, AID has a number of contracts with U.S. universities on agricultural commodities which establish scientific relationships in the developing countries. For example, the AID-financed research program centered in Nebraska focuses on high protein content of wheat. Under this project, scientists of the USDA and the University of Nebraska have teamed up in identifying wheat varieties of high protein quality. Through this project, linkages have been established with scientists in 50 countries.

A number of important joint activities in agricultural research and related fields are being continued and expanded to meet problems in crop production, and to help solve human nutritional deficiencies. One major research program is on grain legumes aimed at increasing the productivity of these high protein crops. This program has activities in Iran to cover conditions of the Near East, and in Puerto Rico to cover tropical conditions. This program is being coordinated with other international activities on these crops which are underway or planned by the Rockefeller Foundation and others. The major cereals program (maize and sorghum) in West Africa has made significant progress, especially in maize, and is making contributions to the AID-supported programs at the new International Institute for Tropical Agriculture (IITA) in Nigeria. The worldwide activities in collecting and distributing plant and seed materials being conducted by the USDA's Agricultural Research Service for AID are entering into a new phase in the United States and overseas to meet increasing needs in agricultural research in major cereals and root food crops.

The recent scientific advancements in the production of agricultural food crops and improvement in research applicable to LDC's have bought time to attack newly identified and recurring problems in the agricultural sector. Some priority areas have been identified among these problems so future resources can be concentrated to further strengthen and improve international networks of research. These were two major needs in research mentioned in the February 1970 report.

Programs must continue to focus on the development of research competence of agricultural research centers and institutions in LDC's, utilizing cooperative international efforts and linkages with worldwide research networks. Research competence must be strengthened not only for dealing with agricultural production problems, but also for attacking economic and sociological problems which agriculture can help alleviate or improve, such as unemployment, maldistribution of income, and malnutrition.

BETTER USE OF LAND AND WATER

As was pointed out in the February 1970 report, knowledge of many aspects of land and water use in the tropical countries is grossly inadequate. Thus, U.S. assistance programs in this area have been increasingly directed toward research. The following identifies some of the major AID-USDA efforts and planned emphasis. However, there is much more that needs to be done and increased emphasis will be placed on this area in the coming year.

Several grants designed to increase man's knowledge of tropical soils and water problems have been made by AID with U.S. universities under the 211d program. Active research contracts with the National Academy of Sciences and U.S. universities are developing new information on the better use of water and tropical soils.

In addition, AID is staffing a small technological-scientific unit to concentrate on key soil and water problem areas. This unit will serve as a nucleus and catalyst for identifying such key problems in developing countries and for mobilizing U.S. scientific expertise to work cooperatively with foundations, multilateral agencies, and country programs toward solving these problems. AID will continue to utilize the resources of the USDA, the Department of Interior, and U.S. universities in worldwide, regional, and country assistance programs.

AID is providing technical and financial assistance for the improvement and expansion of existing irrigation facilities and for developing new facilities for utilizing both surface and underground water in a number of countries. Included in the program is the tapping of underground water resources through the use of tube wells. Countries where significant AID assistance in water utilization has been underway for several years are India, Thailand, Pakistan, Turkey, Korea, the Philippines, Indonesia, South Vietnam, Laos, Tunisia, Ghana, Afghanistan, Jordan, Brazil, Colombia, El Salvador, Chile, and Ecuador. During the past 5 years, 100,000 tube wells have been developed on farms in India and 10,000 in Pakistan to tap underground water resources for agricultural irrigation.

In the Dominican Republic, AID is assisting with the reorganization of irrigation control procedures. The United States has offered to help Peru in the repair and renovation of irrigation systems damaged by the recent earthquake.

In Indonesia, the United States, with Food for Peace programs, has been especially instrumental in assisting with the rehabilitation of irrigation canals which deteriorated during Sukarno's regime. AID is participating in studies of three potential large irrigation and flood control projects.

In the development of the Mekong River Basin, AID has been active in feasibility and planning studies for integrated development, which includes plans for improving river transportation and a number of multipurpose dams for hydroelectric power and for providing water to irrigate several million hectares of land in Laos, Thailand, Cambodia, and Vietnam. The Nam Pong Dam, on a tributary of the Mekong River in Thailand, was completed in 1966 and can provide water for irrigating 10,000 hectares of land when prepared for irrigation. Special emphasis is being given to development of the Pa Mong project on the Mekong between Laos and Thailand, which will provide water for irrigation of up to 2 million hectares of land in the two countries when completed.

AID is also participating with IBRD, United Nations Development Program, and a number of bilateral donors in an arrangement with the Mekong Committee for financing several agricultural pioneer-pilot, experimental-demonstration projects in the four riparian countries for testing irrigation on field crops during wet and dry seasons and for experimenting with forestry, animal husbandry, fisheries, tree crops, and salinity problems. Funds from international contributions for financing the projects will be administered by IBRD. Eight such projects in the four countries are underway now, and fourteen others will be initiated to study the problems anticipated in the development of agriculture on lands to be brought under irrigation in the future.

AID has sponsored a technical assistance and demonstration program in India which may be a model for similar activities in other countries. Under this program, 20 men of the USDA's Soil Conservation Service are working closely with agencies in the central government of India and selected state governments. The primary focus is to help develop competence of Indian institutes to plan and carry out their own soil and water management programs. In doing this, three cooperative pilot projects designed to demonstrate the range of techniques for more effective management and use of soil and water are underway in three different states of India.

In a significantly different type of program, USDA has also joined a project which affects the soil and water resources of the huge Sao Francisco River Basin in Brazil. This basin has a land area larger than that covered by the Tennessee Valley Authority. Department specialists in agricultural extension education and agricultural economics are working in the basin with AID, the Department of Interior, Utah State University, and the Brazil Government on a "multiple development program" dealing with agriculture, irrigation, power generation, navigation, fisheries, flood control, and water quality improvement for municipal and industrial uses.

AID plans to organize and field task forces to pinpoint key problems and study ways to bring about greater cooperation and support for better utilization of land, labor, and water resources to increase production of crops, livestock, and fisheries in the LDC's.

Efforts will be made to make greater use of U.S. resources, those of other developed countries and of the developing countries for a more systematic study of tropical soils. For example, the USDA P.L. 480 Sect. 406 Research Program mentioned above could include a significant research program on tropical soils to supplement and expand studies already underway in Hawaii and Puerto Rico.

TRAINING

The training programs of AID have made a great contribution to U.S. assistance goals. For example, many AID trainees have become influential leaders in government, research, education, and private institutions. As of January 1971, 150,000 men and women of the developing countries had participated in AID-sponsored training programs, 20 percent of them in agriculture.

In order to facilitate tapping the wide variation of training opportunities available throughout the U.S. agricultural community, AID has continued to utilize the USDA to plan and arrange programs for the AID-sponsored trainees. In addition, training components are built into all AID research and technical assistance contracts with U.S. universities working with universities of the developing countries. Important specialized and professional training is provided in this manner.

International seminars and workshops are important training devices used successfully by AID and its contractors for several years. Illustrative of efforts in this direction is the Asian traveling seminar carried out this past year. Leading educators, administrators, and scientists from several Far Eastern countries, including the AID-graduate country, Taiwan, served with U.S. representatives and FAO representatives as the traveling corps.

The corps was joined in each country visited by other leading educators, administrators, and scientists. The program was so successful that the Asians are taking steps to establish an Asian Association for the exchange of information and ideas, and for discussion of mutual problems.

In-country training remains a very important part of AID's training program. This is done in many ways. Educational institutions established or assisted by AID play the key roles. India offers one of the outstanding cases of success. Several U.S. universities have guided the establishment of a number of successful state universities in India which are playing key roles in training and research. Brazil is another example where other U.S. universities have assisted in the creation of a university now offering Ph.D. degrees in agriculture.

One outstanding in-country training program involving USDA, Bureau of Reclamation, and U.S. universities has been the rural development and extension training program in Thailand. Utilizing the political and administrative systems and organization of government in Thailand, with the vertical structure of central, provincial, county, district, and village offices, AID has worked with respective levels to train local officials in their responsibilities to farmers and rural development. Farmers have been organized into groups beginning with the smallest political unit, the village or amphur. Training has been provided to groups by cadre of government extension workers, AID, and AID-contract personnel. The cadres were organized into mobile units and moved from one amphur farm group to another, offering courses in improved farming, soil and water conservation and management, management of farms and cooperatives, farm credit, and marketing of farm products.

A key element of the program has been the training of Thai trainers or extension workers. The USDA Soil Conservation Service team, which has worked in the Northeast Thailand for 5 years, participated in the training program in connection with the team's work on soil surveys and mapping.

The report last year referred to the need for improving the training in U.S. institutions for foreign participants so that it would be more relevant to conditions of their home countries. Some progress has been made.

AID's contract with the U.S. Agricultural Development Council aims to improve curricula in agricultural economics in LDC institutions and in relevant U.S. institutions to suit the needs of LDC's. Seminars with institutions began in 1970.

Another example is the development of agricultural policy, non-academic seminars by USDA with AID support. The first session of this seminar was held in August 1971. Those in attendance included top level decision-makers of government and private institutions concerned with agricultural development.

Progress has also been made in arranging programs whereby graduate students of developing countries in U.S. training can do their theses in their own countries on problems of their own countries. Some arrangements have been completed for several Vietnamese students to do their theses in Vietnam. In other cases, agricultural students have been able to work on problems of their countries, but stay in the United States to complete the work. There are many difficulties in making arrangements for research work within the developing countries to satisfy U.S. university requirements. AID and USDA intend to continue to give this problem serious attention.

Despite the phenomenal growth in education and training in the less developed countries during the past decade, this growth has not kept pace with the accelerating developmental and social demands.

Education and training systems remain seriously deficient in providing the skills required to satisfy the trained manpower needs of the developing countries and in providing the necessary scientific base for a modern agriculture in LDC's. While more specialists are needed, they must be trained in the general sciences in order to cope with the broad range of problems. The United States must continue to emphasize educational and training programs for development of institutions, scientific competence and leadership, and managerial skills in LDC's. Development of institutions for higher education in agriculture for Masters and Ph.D. programs, and for providing training to middle-level management and technicians needed in agricultural industries, remains critical to meeting needs. In-country training must be continued and supplemented by specialized short-course and degree training in the United States.

IMPROVING INSTITUTIONAL COMPETENCE OF MINISTRIES OF AGRICULTURE

In the earlier report, it was pointed out that, "In most developing countries, ministries of agriculture are poorly organized and often ineffective," and that, "if agriculture is to make progress, the ministries of agriculture must be substantially strengthened." Competence must be improved in both planning and in administration in order to meet LDC multiple developmental goals.

These efforts are of great importance to the implementation of U.S. assistance policies which place greater reliance on the developing countries to select their priorities and to effectively administer their programs. Realization of these objectives will require substantial gains in the institutional competence of ministries of agriculture. Some gains have been made.

The first of a five-seminar series on administration and management for 12 sub-cabinet Turkish Government agriculture executives was completed in December 1970. An AID-sponsored USDA team headed by a USDA Assistant Secretary visited Turkey in the summer of 1970 to work with the Turks and the AID Mission there in organizing the program. In sequence, the first seminar focusing on management principles, agricultural development policies, and Turkish management problems was conducted in Washington, D. C. Top U.S. management specialists were involved in the seminar, including USDA agency administrators. A second seminar with 12 Turkish officials was completed in May 1971, and a third was held in October 1971. More than 75 Turkish officials from the State Planning Organization, the Agricultural Bank, and the Ministries of Agriculture, Forestry, Finance, and Commerce may ultimately participate in five seminars. Linked with this program are plans for an intensive training program in Turkey for middle-level managers. This will be mainly a Turkish effort with minimal U.S. assistance.

Another training program with similar objectives is being launched in Vietnam. It is a three-staged series in development planning and implementation for Vietnam Ministry of Agriculture specialists from top level to provincial officials. Training for three key

ministry officials has already been held in the United States; the other stages will be in Vietnam and Thailand.

In AID's program to improve the professional quality of its staff, a special program is underway for agricultural economists to help fill planning needs of LDC's. An important dimension of this program is arrangements with four U.S. universities receiving 211d grants for providing staff support to AID in agricultural economics.

AID and the USDA are considering additional arrangements to make greater utilization of USDA resources to assist developing countries in the area of administration and planning in agriculture at the ministerial level. Such assistance is already being provided in some country programs on an ad hoc basis.

In AID's contract with the USDA to provide technical assistance in food marketing, provisions are made for the USDA to advise LDC ministries on policies affecting marketing in countries requesting assistance.

Several AID missions have important programs such as Thailand, Jordan, and others for improving planning competence of agricultural ministries. In Kenya and Colombia, AID-financed USDA teams have worked with the ministries of agriculture to improve competence in economic planning. Major agricultural sector studies such as those in Korea, Thailand, Nigeria, and Peru will provide training in methodology and approaches, as well as useful information to permit better decision making.

Also, USAID/Tunisia has had a similar program since 1967, utilizing the expertise of the University of Minnesota under an AID contract. AID contracts with U.S. universities are providing economic planning assistance to several countries, such as Brazil, the countries of Central, West, and East Africa, and India. Several USAID missions provide assistance in planning through use of AID employees. Jordan, Morocco, Nigeria, India, Pakistan, Korea, and the Philippines offer examples.

In these efforts, mere transfer of U.S. organizational systems, management techniques, and administrative methods will not accomplish the purpose. Instead, assistance must be imaginative in adapting to the cultural setting, problems, institutional arrangements, and development goals of the LDC's.

Even though AID has long supported and assisted ministries in many ways, most of them are not capable of developing and managing programs of the scale and complexity that will be required in the 1970's and in the 1980's. It is for this reason that broadly based programs with ministries of agriculture which go beyond assistance for planning are required.

The need for increased competence at the national level and the need for national, integrated programs to serve agriculture call for a

comprehensive approach to agricultural assistance. Attention must be given to all aspects of agricultural programs, and to all institutions and organizations at the national and local levels serving agriculture in order to develop a unified, national system.

The experience and resources of the USDA together with those of the various U.S. state governments are suited for providing assistance to ministries in such a comprehensive approach to assistance in the future. Arrangements with ministries in selected developing countries could be developed to utilize the USDA cooperatively with a few selected U.S. state departments of agriculture to serve as an intermediary organization to meet the needs of U.S. agricultural assistance programs in the future.



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